

**Before the
Federal Communications Commission**

In the Matter of)	
)	
Developing a Unified Intercarrier)	CC Docket No. 01-92
Compensation Regime)	

**REPLY COMMENTS ON FURTHER NOTICE OF PROPOSED RULEMAKING
BY BALHOFF & ROWE, LLC**

INTRODUCTION AND SUMMARY

Balhoff and Rowe, LLC, files these reply comments on the specific subject of phantom traffic, raised by the Commission in Paragraph 133 of the *Further Notice of Proposed Rulemaking* (FNPRM) (FCC 05-33) released on March 3, 2005, and addressed by a variety of parties.

Balhoff and Rowe, LLC, is a consulting firm focused on financially-based solutions to core policy issues in telecommunications and energy. Its principals have many years experience in telecommunications finance, law, policy and regulation. In the course of its work with a variety of telecommunications carriers, especially progressive rural service providers, Balhoff & Rowe has focused on the conditions necessary to facilitate investment in high-quality networks necessary to provide rural America access to service and rates reasonably comparable to those provided urban America and to advanced telecommunications capabilities.

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For purposes of this reply comments “phantom traffic” is defined as:

All communication services using the switched network that are either un-billed or under-billed due to:

- 1. insufficient information to properly identify and invoice the responsible originating entity,*
- 2. traffic delivered by a connecting company over common trunk groups without agreements or knowledge of the terminating company,*
- 3. or traffic routed fraudulently or inadvertently to conceal the geographic origination of the traffic, including but not limited to routing over trunks with lower-priced jurisdictions.*

Phantom traffic is a growing concern to small, medium and large companies that terminate traffic over their networks. Carriers that have undertaken studies frequently determine that a substantial share of traffic in studied central offices is “phantom.” Phantom traffic has both direct and indirect costs including uncollected and under-collected revenues; high expenditures for quality of service network augmentation to meet increased traffic demand; “revenue assurance” personnel, consultants, hardware, and software; and enforcement actions. These costs undercut carriers’ ability to invest and serve their customers, exacerbate the problems that some argue require wholesale intercarrier compensation reform, and make it impossible to set a sufficiently accurate baseline for intercarrier compensation reform.

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No intercarrier compensation reform currently under realistic consideration for rural carriers would obviate the acute need for a phantom traffic reporting and enforcement regime. Even “unified rates” would still require reporting in such a way that the rates can be billed and will require an enforcement regime. “Bill and keep” for rural carriers would solve the phantom traffic problem in the same way that eliminating theft of goods from the criminal codes would solve a severe shoplifting problem.

The record in this docket already contains significant support for Commission action concerning phantom traffic. The leading industry technical group has done important work developing relevant voluntary guidelines, which remain ineffective because it has no authority except to produce “voluntary” solutions. Some state public service commissions have also addressed the phantom traffic problem. The industry and state efforts do help provide a basis for prompt Commission action in this proceeding.

In short, phantom traffic presents important and immediate systemic enforcement issues, in contrast to the complex policy, economic, and allocative issues at stake in the larger intercarrier compensation docket. Based on work already done, the Commission can and should adopt a separate order, in this docket, to address phantom traffic as a first priority issue. No party can reasonably object to putting in place practices to ensure that lawfully-owed rates may be billed and collected, whatever those rates are at the time.

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**I. THE RECORD IN THIS DOCKET INCLUDES A SUFFICIENT BASIS TO
ADDRESS PHANTOM TRAFFIC.**

. In the *Further Notice of Proposed Rulemaking*¹ at paragraph 133, the Commission asks specific questions about the extent to which carriers must transmit sufficient call detail information in order for other carriers to bill

¹ *Developing a Unified Intercarrier Compensation Regime Further Notice of Proposed Rulemaking*, CC Docket 01-92 (released March 3, 2005) ("FNPRM").

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intercarrier traffic. The FNPRM also asks what role transit carriers play in the intercarrier compensation regime.

The Expanded Portland Group (EPG) set out proposed requirements concerning phantom traffic, which were then the basis of subsequent comments. In its November 2, 2004, submission to the Commission, the EPG asked that the Commission consider a “truth-in-labeling” policy which would ensure that carriers could bill for all traffic riding the public switched telephone network (PSTN). Specifically, the EPG asked that:

1) by a date certain, all messages transmitted over the PSTN contain accurate labeling indicating the carrier responsible for traffic and the origination and termination of the traffic;

2) If traffic is not labeled, the carrier delivering the traffic will be billed at the highest applicable rate; and

3) After an additional period of time, traffic that is not properly labeled will no longer be directly connected and may be routed to a location where additional billing detail can be obtained.²

In addition, the EPG proposal calls for a default termination rate that could be set for those carriers that do not have interconnection or traffic termination agreements.³

² *EPG Comments* at p. 17.

³ The *T-Mobile Order* set default rates for certain CMRS traffic. *See Developing a Unified Intercarrier Compensation Regime, T-Mobile, et al. Petition for Declaratory Ruling Regarding Incumbent LEC Wireless Termination Tariffs*, CC Docket No. 01-92, FCC 05-42 (Feb. 24, 2005). The

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In endorsing the EPG proposal, both ARIC⁴ and NARUC⁵ urged that the FCC craft truth-in-labeling rules that allow carriers to block traffic lacking sufficient call detail information. In its comments in the FNPRM, CenturyTel endorsed the EPG's call for a truth-in-labeling initiative.⁶ CenturyTel argues the Commission should "require and enforce truth-in-labeling on all inter-network and inter-carrier traffic, enabling recipients of such traffic to bill the proper party for terminating traffic originating on another network."⁷

NARUC's most recent intercarrier compensation proposal, filed in this docket, generally proposes that no LEC should be required to terminate calls for which they cannot bill, provided the carrier participates in an industry program to address phantom traffic. The NARUC proposal would further require tandem owners to participate in a program to eliminate phantom traffic.⁸

issued remains significant as to other traffic, including virtual NXX, VoIP, and CMRS outside the scope of *T-Mobile*.

⁴ See Alliance for Rational Intercarrier Compensation – Fair Affordable Comprehensive Telecommunications Solution at 55 (filed October 25, 2004).

⁵ See Robert B. Nelson, Commissioner, Michigan Public Service Commission, et al. to Marlene H. Dortch, Secretary, Federal Communications Commission, Appendix C (May 18, 2005).

⁶ *Comments of CenturyTel* at p. 7.

⁷ *Id.*

⁸ The complete text of the NARUC phantom traffic section is as follows:

10. No LEC should be required to terminate calls if the call records do not permit billing for terminating access, so long as it participates in an industry process designed to identify calls that have been blocked for this reason and provide real-time resolution. If the carrier seeking to terminate traffic to the LEC disputes the LEC's determination, it should have the option of referring the dispute to the appropriate State commission for resolution. Upon receiving notice that the dispute has been referred to a State commission, the LEC should carry the disputed traffic until the State commission has acted.
11. Tandem owners must participate in a program designed to eliminate phantom traffic, including performing screening of call records if necessary.

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In the FNPRM, the Commission suggested that the requirement that ILECs provide transit service is “increasingly critical” and “explicitly recognized and supported by the Act.”⁹ Many commenters argue that the Commission has the statutory authority through Sections 251(a) and 251(c)(2)(b) to require ILECs to act as transiting carriers.¹⁰ If the Commission determines that ILECs must provide transiting service, it is reasonable to require that originating carriers provide sufficient call detail to allow the terminating carrier to bill for the traffic, and to require that this information be passed forward by the transiting carrier. If a transiting carrier receives traffic that lacks originating call detail information, the transiting carrier should have the ability under specific rules to refuse such unidentified traffic. In turn, the terminating carrier should be able under specific

These provisions would establish a process that resolves the issue of compelling LECs to terminate traffic for which they do not receive compensation. This issue is resolved in the longer term by adopting capacity or port charges. NARUC Inter-carrier Compensation Proposal, Version 7 (May 17, 2005).

⁹ FNPRM at para. 125.

¹⁰ For example, MetroPCS argues that courts would likely defer under the *Chevron* doctrine to the FCC’s statutory interpretation of Sections 251(a) and 251(c)(2)(b) that ILECs are obligated to provide transiting service. *MetroPCS Comments* at pp. 21-22. See *Chevron USA, Inc. v. Natural Resources Defense Council, Inc.* 467 U.S. 837 (1984). Comptel/ALTS argues that the Commission should adopt rules which require ILECs to offer “indirect interconnection” at “just, reasonable and nondiscriminatory rates.” *Comptel/ALTS Comments* at p. 10. Comptel/ALTS argues that the FCC obtains its authority to require ILECs to provide transiting service from Sections 201, 251(a) and 251(c)(2)(B). Nextel argues that ILECs are required to provide transiting service, citing Section 201(a) as the FCC’s authority, stating that the Commission has historically relied on Section 201(a) to force carriers to interconnect. On the other hand, BellSouth, for example, argues the FCC does not have statutory authority to require ILECs to act as transiting carriers. Specifically, BellSouth argues that the “indirect interconnection” requirement of Section 251(a) cannot be read to place transiting obligations on ILECs. BellSouth points to paragraph 534 of the *Triennial Review Order* as FCC authority for the notion that Section 251(c)(2) does not require “incumbent LECs to provide transiting.” See *Comments of BellSouth* at pp.32 -38.

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rules to refuse such unidentified traffic or to request that the transiting carrier not deliver it.

No intercarrier compensation reform currently under realistic consideration for rural carriers would obviate the acute need for a phantom traffic reporting and enforcement regime. Advocates frequently point to the perceived need for unified rates or bill-and-keep solutions. However, “unified rates” would still require reporting in such a way that the rates can be billed and will require an enforcement regime. “Bill and keep” for rural carriers would solve the problem in the same way that eliminating theft of goods from the criminal codes would solve a severe shoplifting problem. As recognized by the great majority of commenters, bill and keep is not a viable option for rural carriers for multiple reasons thoroughly developed in the comments.

II. PHANTOM TRAFFIC ABUSES ARE MULTIPLE, AND INVOLVE UNBILLABLE OR UNDER-BILLED TRAFFIC.

As used in these comments, “phantom traffic” refers to traffic that is either unbillable or under-billed. A more precise working definition is as follows:

All communication services using the switched network that are either unbilled or under-billed due to:

- 1. Insufficient information to properly identify and invoice the responsible originating entity,*

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2. traffic delivered by a connecting company over common trunk groups without agreements or knowledge of the terminating company,

3. or traffic routed fraudulently or inadvertently to conceal the geographic origination of the traffic, including but not limited to routing over trunks with lower-priced jurisdictions.¹¹

The omission of sufficient call detail may sometimes be inadvertent, but is in many cases done to avoid paying termination charges at lawfully tariffed levels.

Wireless traffic not covered by an agreement may be loaded on a local trunk. Long-distance traffic may be loaded on a wireless or local trunk.

In addition to manipulating the routing, Initial Address Message (IAM) data fields may be left unpopulated or incorrectly populated by the originating carrier.¹²

For example, Carrier Identification Codes (CICs) may be changed or not provided.

Calling Party Number (CPNs) may be stripped, or pseudo-CPNs may be used.

Charged Numbers (CNs) may be manipulated. Jurisdictional Information

Parameters (JIPs) may be left empty. All of these scenarios involve traffic traveling

over the network without proper identification, and therefore precluding the

terminating carrier from properly billing for that traffic.

¹¹ This working definition was developed in consultation with a group of subject matter experts from CenturyTel, Consolidated Communications, FairPoint Communications, Iowa Telecommunications, TDS, and Valor Telecommunications, who are familiar both with their own network's experience and with the work of the industry technical group referenced in these reply comments. Terminating carriers have the responsibility for provisioning systems necessary to process the information transmitted to them.

¹² Signaling System 7 (SS7) calls include relevant data fields in the Initial Address Message (IAM) for Carrier Identification Code (CIC), Calling Party Number (CPN), Charged Number (CN), and Jurisdictional Information Parameter (JIP).

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Carriers are employing a variety of approaches to detect phantom traffic. For example, a sudden shift in traffic volumes from toll to local trunk groups would indicate that further research is required to determine the cause. Some detection methods employ historical volume trend studies, comparing local minutes-of-use in a particular office to historical use in that office or to other offices. Other approaches involve installing data probes in SS7-provisioned offices, to detect possible abuses in real-time. All of these methods are costly for a terminating company.

In order to implement a reporting and enforcement regime, it is not necessary to know in advance the precise size of the phantom traffic problem or the identity of all the perpetrators. The Commission already recognizes that a problem exists. The difficulty of completely sizing the problem and naming all the offenders is itself strong evidence that the current, largely private, voluntary compliance regime is broken. It should be sufficient that the FCC recognizes that there is a problem and that additional clarity regarding the rules and enforcement will direct all carriers toward lawful behavior. However, it should also be noted that multiplying any reasonable estimate of the percent of traffic affected by the applicable terminating access rate produces substantial per line and total losses for both RBOCs and rural carriers. Per line losses and proportional total losses will be significantly higher for rural carriers because their access rates are typically higher due to the higher cost

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of serving rural areas which tend to have significantly lower population densities, greater transport distances and longer loop lengths.¹³

Discovery and collection costs are substantial additions to the direct costs of lost revenue. For example, rural carriers may pay as much as \$15,000 per switch for SS7 probes. Costs include hardware and software, data storage, external consultants, internal revenue assurance experts, outside and in-house counsel dedicated to phantom traffic identification and collection.

An appropriate labeling and enforcement regime will best ensure that lawfully tariffed rates are collected. Such a regime will reduce both the lost revenue and monitoring and enforcement costs now being incurred by terminating carriers of all sizes. Such a regime will provide more clarity and predictability concerning revenues for all carriers, strengthen the environment for investment, and make it more possible for the Commission to set an appropriate baseline for the costs associated with any broad reform of intercarrier compensation.

¹³Twin Lakes Telephone Cooperative, which serves more than 30,000 access lines around Gainesboro, Tennessee, reported phantom traffic losses of 50%. See http://enews.primediabusiness.com/enews/telephony/technology_update/2005_04_20_april_20_2005/view.html#feature2.

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III. SUBSTANTIAL INDUSTRY EXPERIENCE PROVIDES A BASIS FOR COMMISSION ACTION.

Significant work has occurred at the company, state, and industry levels.

None of those efforts, severally or collectively, provide a substitute for action by the Commission. Together, they provide a solid basis for prompt action and leadership by the Commission.

As described, company-level efforts are costly, and are not guaranteed to capture all or most of the revenues actually lost. Without a strong reporting and enforcement regime, paying phantom traffic claims when caught is effectively just a cost of doing business for some originating carriers, but represents significant, ongoing loss to terminating carriers.

Several states have taken constructive approaches to address phantom traffic. The Montana Legislature addressed phantom traffic in 2002, followed by Public Service Commission implementation.¹⁴ Recently, the Missouri Public Service Commission adopted strong rules designed to curtail phantom traffic by, among other things, specifying what information must be provided, creating procedures for transiting carriers to block noncompliant traffic, and for terminating carriers to

¹⁴ House Bill 641, adopted in 2003, provided for non-discriminatory payment of intercarrier compensation, and included definitions of originating, transiting, and terminating carriers. House Bill 580 provided for expedited complaint procedures concerning interconnection and exchange access disputes. The Public Service Commission opened an implementation docket, convened a series of technical workshops, and adopted rules.

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request blocking by transiting carriers.¹⁵ However, state activity in this area will be most effective within a consistent national framework. Consistent national rules and consistent enforcement will best address traffic that originates in one state and terminates in another state, possibly after transiting an intermediate state (which appears to constitute most or much phantom traffic), and will complement and strengthen the efforts that have now been undertaken by several states.¹⁶ Other enforcement regimes provide relevant models for federal-state cooperation, including the Section 271-272 Bell long distance entry monitoring and enforcement practices; cooperative federal-state anti-slamming enforcement; and, the evolving approach to rigorous Eligible Telecommunications Carrier certification and review. State action within a federal framework, especially concerning state decertification, but also other enforcement efforts, will continue to be important.

The Alliance for Telecommunications Industry Solutions (ATIS) is a voluntary body “committed to rapidly developing and promoting technical and operations standards for the communications and related information technologies industry worldwide using a pragmatic, flexible and open approach.”¹⁷ Within ATIS, the Ordering and Billing Forum (OBF) provides a venue to “identify, discuss and resolve national issues which affect ordering, billing, provisioning and exchange of

¹⁵ Missouri Public Service Commission Enhanced Record Exchange Rules, 4 CSR 240-29.010 through .140. 29.100 concerns blocking by transiting carriers. 29.110 concerns blocking requests by terminating carriers. Order of Rulemaking, 30 Missouri Register 12 (June 15, 2005).

¹⁶ As discussed, the Commission’s authority is clear under Section 201 and Section 251(a), concerning interconnection duties.

¹⁷ , visited July 10, 2005.

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information about access services, other connectivity and related matters.”¹⁸ The OBF brings together industry revenue assurance experts to develop technical standards on billing matters specifically including phantom traffic. Its work informs several of the specific proposed requirements enumerated below. OBF standards, however, are voluntary. They typically include “technically feasible” escape hatches that may be too liberal and by their voluntary nature are not enforceable. However, the OBF’s work provides an exceptionally well-developed basis for Commission action, and informs the recommendations set out in this Reply Comment.

The OBF’s work, in conjunction with the efforts of states such as Missouri and that of the companies’ own subject matter experts provide a basis for adopting a specific set of reporting or labeling requirements, together with a system for predictable and meaningful enforcement.

Effective action will require clear regulations concerning labeling of all intercarrier traffic, and enforcement rules that deter abuses. Labeling regulations should include:

1. Specific, mandatory identification in the Initial Address Message of the originating carrier.¹⁹

¹⁸, visited July 10, 2005.

¹⁹OBF has suggested rules that address some problems, if certain language is strengthened by the FCC, notably by omitting qualifications such as “where technically feasible” or “where technologically possible.” The rules in this note, with the exceptions noted, seem sensible as articulated on December 8, 2004, when the Billing Committee of OBF reached a consensus to use the 7 Rules for Populating JIP approved by NIIF in NIOC Issue 0208 to identify the originating switch

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2. A requirement to pass on unaltered call origination records for billing.
3. Requirements regarding identifying physical geographic location of calls.²⁰

or MSC. The Billing Committee supports those rules recognizing that the JIP at a state/LATA level will not provide sufficient detail to determine local jurisdiction. Specific to OBF Issue 2349, Rule #2 states the "JIP should be populated with an NPA-NXX that is assigned in the LERG to the originating switch or MSC." The Billing Committee's preferred solution would have been to use the JIP at a cell site level. Based on industry limitations, this was judged at the time to be an unworkable solution. The rules are [our emphasis in italics is added]: (1) JIP should be populated in the Initial Address Messages (IAMs) of all wireline and wireless originating calls *where technically feasible*. (2) JIP should be populated with an NPA-NXX that is assigned in the LERG to the originating switch or MSC. (3) The NIIF does not recommend proposing that the JIP parameter be mandatory since calls missing any mandatory parameter will be aborted. However the NIIF strongly recommends that the JIP be populated on all calls *where technologically possible*. (4) *Where technically feasible* if the originating switch or MSC serves multiple states/LATAs, then the switch should support multiple JIPs such that the JIP used for a given call can be populated with an NPA-NXX that is specific to both the switch as well as the state and LATA of the caller. If the JIP cannot be populated at the state and LATA level, the JIP should be populated with an NPA-NXX specific to the originating switch or MSC *where it is technically feasible*. (5) Where the originating switch cannot signal JIP it is desirable that the subsequent switch in the call path populate the JIP using a data fill default associated with the incoming route. The value of the data fill item is an NPA-NXX associated with the originating switch or MSC and reflects its location. (6) When call forwarding occurs, the forwarded from DN (Directory Number) field will be populated, the JIP will be changed to a JIP associated with the forwarded from DN and the new called DN will be inserted in the IAM. (7) As per T1.TRQ2, the JIP should be reset when a new billable call leg is created.

²⁰ The problem with identifying the physical geographic origin of a call was also addressed by OBF in its Consensus Resolution Reached on OBF Issue 1921 on November 8, 2000. The Resolution states: "On the CAT 1101xx records, the originating OCN [Operating Company Number] field (positions 167-170) should be populated with the OCN of the company that originated the call under the following conditions: The "from" number (positions 15-24) is ported and the originating LRN fields (positions 157-166) is populated. The company originating the call does not have a CIC code. The company originating the call has a CIC, but completed the call over a trunk group used for local interconnection. On the CAT 1150 MPB records, a new field titled "Originating Company OCN" will be added in position 176-179. The Special consideration section on the Record Description pages will reflect: The originating OCN field (positions 176-179) should be populated with the OCN of the company that originated the call under the following conditions: The company originating the call does not have a CIC code; the company originating the call has a CIC, but completed the call over a trunk group used for local interconnection. It was recognized that the tandem company may not be able to correctly populate the originating company OCN when the originating company has ported numbers. This would apply to both landline and cellular originating companies.

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4. Methods for billing unidentified traffic or traffic for which the regulatory rules are not clear.

Enforcement rules should be sufficient to deter phantom traffic. They should ensure:

1. Strict processes for challenging suspect traffic.
2. Effective sanctions that are clear, prompt and certain.
3. Fines and other penalties large enough to change behavior.
4. Authorization for the transiting and terminating carriers to refuse traffic, under clear rules that protect the consumer and inadvertent offender, for example by allowing specific time for investigation or changes, along with appropriate notifications and warnings.
5. Decertification or withdrawal of authorization to provide service by states of repeat offenders.

IV. THE COMMISSION SHOULD ADOPT AN ORDER IN THIS DOCKET, SPECIFICALLY ADDRESSING PHANTOM TRAFFIC.

Any party may petition the Commission for amendment or repeal of a rule. 47 C.F.R. Sec. 1.401. However, it appears that a separate rulemaking in a new docket is neither required nor desirable. It is not required because the Commission has expressly raised the issue in this proceeding, parties have addressed it, and have proposed action.

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A separate rulemaking in a new docket is not desirable because phantom traffic presents urgent issues of revenue loss, non-compliance with currently lawful tariffs, and harm to support for telecommunications networks. Prompt action on these vital but largely technical questions will set the foundation for further work on intercarrier compensation generally, including more correctly sizing the shortfall from revenues owed under currently lawful tariffs. Prompt action on phantom traffic will also allow the Commission to take an appropriate approach to the complex policy, economic, and allocative issues at stake in the larger intercarrier compensation docket.

Based on the work already done, the Commission can and should adopt an order in this docket, addressing phantom traffic as a first priority issue. No party can reasonably object to putting in place practices to ensure that lawfully-owed rates may be collected, whatever those rates are at the time.

V. CONCLUSION.

Phantom traffic is a significant issue, affecting a large portion of many carriers' terminating access revenues. Revenue loss, network augmentation to accommodate the traffic, and monitoring and enforcement costs are substantial for both larger and small local exchange carriers terminating traffic. The problem can reasonably be expected to grow both worse and more complicated absent strong and prompt action by the Commission. The problem cannot be resolved by the industry

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alone, but rather requires action by the Commission, working with the states and industry. Industry action, notably the work of revenue assurance experts and the Ordering and Billing Forum, can provide a basis for prompt and authoritative Commission action. Phantom traffic is closely related to the policy and economic issues in this docket, but is amenable to and requires action in advance of those issues.

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Correctly identifying and compensating for network use, and deterring uncompensated or under-compensated use, promotes investment in an evolving network capable of serving all America's telecommunications needs.

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